

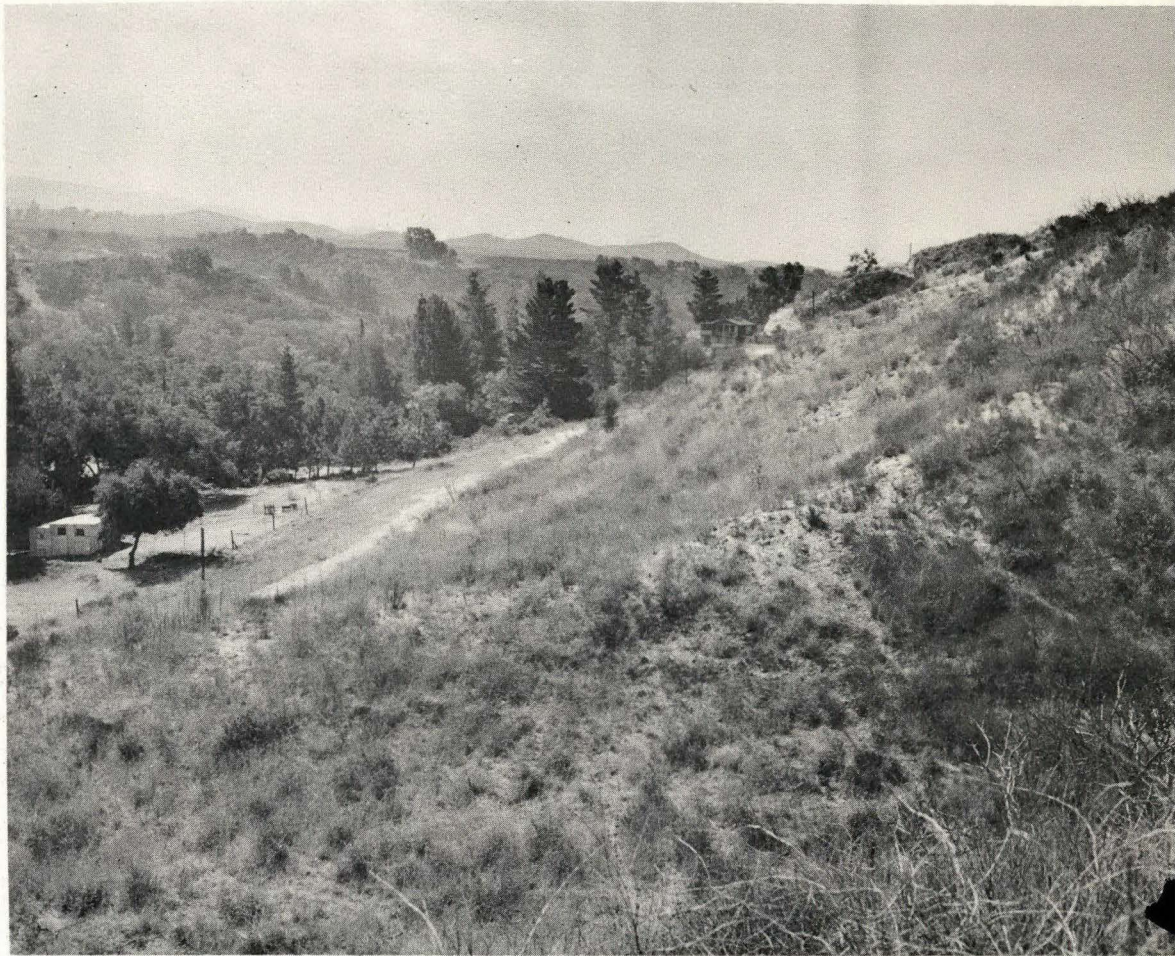
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TRABUCO OAKS

1958-60

A COOPERATIVE FUEL-BREAK
DEMONSTRATION - - - - -

CALIFORNIA DIVISION OF FORESTRY
ORANGE COUNTY, DISTRICT VI
FUEL-BREAK STAFF



FUEL BREAK

PROJECT 3 - 1 - D

Pacific Southwest Forest and Range Experiment Station

Forest Service, U. S. Department of Agriculture

P. O. Box 245

Berkeley 1, California

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National Forest Library
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One of the first fuel-break demonstrations was started in 1958 at Trabuco Oaks in Orange County. On a wide strip adjacent to this community, the California Division of Forestry, assisted by the FUEL-BREAK staff, set out to control the brush sprouts which were developing rapidly after a fire in 1957. Hormone-type chemicals were used to kill the sprouts.

The Area

At Trabuco Oaks, a small urban area in the foothills of the Santa Ana Mountains, home development is mainly along a road which parallels the Trabuco River. Before the 1957 wildfire, dense brush covered the surrounding hillsides and grew within a few feet of some of the houses. This represented a serious fire control problem typically found in southern California where urban development is being pushed farther and farther into the brush-covered foothills and canyon bottoms.

The fire at Trabuco Oaks in 1957 burned up to the backyards of the homes and threatened destruction of the entire community. This left an excellent situation to show how killing the brush regrowth on a strip adjacent to the homes could provide future protection to the community. Consequently, a fuel-break was planned along a truck trail immediately behind the homes. The break sprayed with chemical in 1958 was about 2 chains wide and 25 chains long.

The Problem

The problem was to kill the vigorous sprouts in burned-over mixed chaparral dominated by scrub oak. Chemical control, the selected method, had to be applied in 1958 before the sprouts grew too large for efficient operation.

Hand application of the chemical was necessary. The terrain was too steep for broadcast spraying with a tractor boom, and aerial spraying couldn't be used because of close proximity to the homes.

The main reason for hand spraying however, was the need for saturation of individual sprouting plants. Past experience in other parts of the State indicated that this was the best way to kill oak and its associated hard-to-kill species.

The dead stems of heavy brush not fully consumed in the fire were a problem because they prevented easy movement of the spray crew over the area.

Two Spraying Dates in 1958

The sprouts on 3 plots, each 2 x 5 chains, were sprayed in May. Two of these plots were resprayed in June when two additional plots were sprayed. The unburned snags were removed from all plots before the June spraying.

A 50/50 brushkiller mixture of low volatile esters of 2,4-D was applied, using a hose from a power sprayer. The emulsion contained approximately 4 pounds, acid equivalent, of chemical, 1 gallon of diesel oil, and 98 gallons of water.

Follow-up Spraying in 1960

In January 1960 all living brush plants once again were saturated with the brushkiller mixture.



Pulling hose through snags.

Labor and Materials Cost

The costs as reported by the California Division of Forestry are:

<u>Labor and Supervision</u>	<u>Man hours/acre</u>	<u>Chemicals</u>	<u>Dollars/acre</u>
Brush removal, 1958	48.0	2,4-D (3.9 lbs. a. e.) - 1958	4.33
Spraying, 1958	37.6	2,4,5-T (3.9 lbs. a. e.)	8.50
Spraying, 1960	53.8	2,4-D (3.6 lbs. a. e.) - 1960	3.99
		2,4,5-T (3.6 lbs. a. e.)	<u>7.85</u>
			24.67

Other incidental expenses probably totaled between \$5.00 and \$10.00 per acre.

Results

The 1958 spraying topkilled nearly all of the sprouting brush. About 30 percent of the oak and other broadleaved brush sprouts were completely killed; the remainder resprouted from the plant crowns. Chamise, sage, and other susceptible species were killed, except for small plants that were obscured by the heavy herbaceous vegetation and were inadequately sprayed.

The spraying in January 1960 topkilled the oak plants; by June only a few were resprouting. Some of the chamise, sage, and buckwheat plants were missed and should be sprayed next spring.



Removing snags.

Conclusions

All heavy unburned brush snags should be removed before chemical spraying is started in the spring. The removal is best done during the preceding fall or winter so that growth of the sprouts is not interrupted just before spraying.

At least three thorough applications in consecutive years should be planned for killing sprouts of oak and other tough species.

Manpower requirements and other costs were quite high on this project. Undoubtedly they can be reduced on larger jobs. Even though costs are high, the California Division of Forestry considers chemical spraying to eradicate the brush will be cheaper over the long haul than will yearly or periodic maintenance of breaks by hand labor.